Remarks

Claims 1-20 are pending in the present application, of which claims 1, 12 and 20 are independent claims. Claims 3, 5, and 6 have been amended herein for clarification. No new matter is presented by the amendments offered herein.

35 U.S.C. §103 Rejections

Claims 1-3 and 12-14

The Office Action rejected claims 1-3 and 12-14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,269,356 to Hatton ("Hatton").

Briefly, Hatton discloses a system that generates solutions by ***analogy***. (see Hatton, Abstract; col. 2 lines 42-47) A user inputs two statements (a *problem statement* and a *goal declaration*) and the computer returns a "possible solution" - by *analogy*. (see, e.g., Hatton, col. 1 line 67-col. 2, line 1; col. 7 lines 14-17) "Once these two entries have been typed into the computer, the software program can begin its processing." (Hatton, col. 7, lines 54-55)

"In terms of the problem statement and goal declaration: the computer program defines each word; checks to see that the problem statement complies with the fundamental components of actions and objects (verbs and nouns); semantically checks the logic of the problem statement and goal declaration; searches the "Experience Databases" looking for the same actions and then substitutes, where appropriate, the analogy to create the idea or solve the problem. So analysis, logic, and substitution for analogy are all used by this computer program." (Hatton, col. 3 lines 50-59, emphasis added; see also col. 2, lines 18-20)

"From a logical analysis of the input statements, the program decides which "Experience Database" to search to find its answers." (Hatton, col. 6, lines 4-7) Each Experience Database is organized based on actions (or verbs) and is formed for a category (e.g., an Experience Database for the category "plant"), wherein the databases have a hierarchical structure (e.g., with subcategories, like "tree" for the category "plant"). "Unlike other inventions in the field of "Expert Systems," [Hatton's] invention

knows how to search unrelated data to find corresponding information that may generate the idea or solve the problem. ... the computer program generates the ideas by finding analogies." (Hatton, col. 2 lines 42-47, emphasis added, see also col. 7 lines 5-42)

Claim 1 is reproduced below for convenience:

> 1. A system enabling a user to ask a question (query) and for providing the user with one or more answers or solutions to such question, the system comprising:
>
> user apparatus for automatically generating first signals representative of a natural language user query that includes one or more query elements comprising (A-O), (S-A), (S-X-O), or (S);
>
> a server coupled to a knowledge base of semantically and automatically processed information including a plurality of available answers in the form of S-A-O's, the server configured to:
>
> identify from the one or more query elements at least one knowledge base element S, O, or A, or (A-O) associated with at least one respective knowledge base answer S-A-O that includes the one or more query elements, in response to the server receiving the first signals; and
>
> generate second signals representative of the at least one answer S-A-O, wherein the user apparatus is configured to generate a natural language audio message or visual display of the at least one answer S-A-O in response to receiving the second signals; and
>
> communication devices configured to transmit the first signals from the user apparatus to the server and to transmit the second signals from the server to the user apparatus.
>
> (emphasis added)

Generally speaking, Hatton and claim 1 are fundamentally different. Hatton requires two input statements: a ***problem statement*** and a ***goal declaration***. Moreover, these input statements are strictly constrained, e.g. "the goal declaration statement is checked for a verb phrase only" (Hatton, col.10, lines 42-43). Claim 1 does not impose such narrow constraints on a user, i.e., claim 1 only requires an input having one or more of the query elements (A-O), (S-A), (S-X-O), or (S). As a result, while present invention

is sufficiently robust to find answers for Hatton-style inputs, Hatton would not be able to find answers for many queries processed by the present invention, as provided in claim 1.

Another fundamental difference is that Hatton is an ***analogy*** system. That is, Hatton finds an answer to a problem by searching *unrelated data* and then solves the problem by analogy (with substitution from the unrelated data). Using the example in Hatton, Hatton searches an Experience database for humans (human.exp) to find an answer for an unrelated problem of beavers destroying trees, where trees are represented in a different Experience database (tree.exp). Once an answer to the unrelated human problem is found, then Hatton makes a substitution to provide an answer by analogy. (See, e.g., Hatton col. 2, lines 18-20; col. 13 lines 6-19) In Hatton's example, after finding the solution in the human Experience database of:

"[transplant,*skin*,damaged_location]"

Hatton substitutes the word "bark" for "skin" and produces the answer:

"[transplant,*bark*,damaged_location]"

Which is output, in response to the goal statement "Save the tree" as:

"Transplant bark to damaged location."

Note that the answer is found based on a "pointer verb" (or common verb) "protect" found in the human.exp Experience database and the tree.exp Experience database – but "protect" was not a query element in Hatton. Yet, it is used as the critical search word for finding an analogy. Thus, Hatton must determine a proper pointer verb from he two input statement to find a solution by analogy. The determination of the pointer could itself lead to errors.

In contrast to the above noted approach of Hatton, the present invention as provided in claim 1 is not an analogy system, nor is it made obvious by one. Nothing in claim 1 suggests that answers are produced by determining a pointer verb and the by analogy and substitution, or by searching unrelated databases. Rather, the present invention finds answers in an S-A-O format that include one or more of the query elements ((A-O), (S-A), (S-X-O), or (S)) – input by the user. So the system of claim 1 finds answers in direct correspondence with the original query elements. Using example

5 of the present application (on page 5), it can be seen that according to claim 1, the query elements are found in the answers:

> [0134] Example 5. (S-X-O) query format
>
> [0135]
>
> [0136] Question: What are the relations between aspirin and asthma?
>
> [0137] S-aspirin, O-asthma
>
> [0138] Answers:
>
> [0139] a. Aspirin-induce-asthma
>
> [0140] b. Aspirin-trigger-asthma attack

This approach does not use analogy at all, but rather focuses on identification of query elements as being of certain parts of speech, and those query elements being contained within the answers. This is not taught by Hatton. Pointing verbs and analogy and substitution are not used.

It also follows that the category-oriented Experience databases (e.g., human.exp, tree.exp) of Hatton are not analogous to the knowledge base containing a collection of indexed answers in S-A-O format of the present invention. Hatton's Experience databases do not appear to provide index answers in S-A-O format as in claim 1.

Accordingly, for various reasons, Hatton's analogy and substitution system, using a pointer verb, does not make obvious the system of claim 1. Reconsideration and withdrawal of this rejection is requested.

Claim 2

Claim 2 depends from claim 1. As discussed above, Hatton does not make obvious each and every element of claim 1, nor does it make obvious the apparatus of claim 2, "wherein said server conducts a search of the World Wide Web, identifies documents that include new answer S-A-O's each comprising an element or elements that match the one or more query elements, stores links to such documents, and adds such new answer S-A-O's to the knowledge base, and wherein the server includes, as part of the second signals, representations of each of the new answer S-A-O's."

The Office Action acknowledged that Hatton does not disclose searching external systems and databases for possible answers and then formatting new answers and adding them to it knowledge bases. But the Office Action asserted that this would have been well known in the art and that the Applicant admitted as much in para. [0002] of its Background section. Para. [0002] of the present application merely states, at a very high level, the field of invention. As of the priority date of the present application, in 2000, some web searching was generally available, but that high level capability does not make obvious the elements of claim 2, even in view of Hatton. The cited passage from para. [0002] does not, for example, address identifying "documents that include new answer S-A-O's each comprising an element or elements that match the one or more query elements."

Neither Hatton nor other search systems that pre-date the present invention searched and stored answers in an S-A-O format, in accordance with all of the elements of claims 1 and 2.

Accordingly, for the reasons similar to those put forth above, reconsideration and withdrawal of this rejection is requested.

Claim 3

Claim 3 now depends from claim 2. As discussed above, Hatton does not make obvious each and every element of claim 2, nor does it make obvious the apparatus of claim 3, "wherein said server conducts said search automatically in response to the server determining that no knowledge base element or elements matches the one or more query elements or in response to a user search command."

Specifically, the Office Action stated that Hatton's FIG. 5 teaches this claim. However, the Office Action acknowledged that Hatton did not teach claim 2. Beyond claim 2, claim 3 further includes that the search of the Web can be done automatically in the absence of an answer in the knowledge base. Hatton does not address this concept. Additionally, if Hatton does not teach claim 2, it cannot teach claim 3, nor was the subject matter of claim 3 known in the art at the time the present invention was made.

Accordingly, for the reasons similar to those put forth above, reconsideration and withdrawal of this rejection is requested.

Claim 12, 13 and 14

Claim 12 is a method claim corresponding to apparatus claim 1. Accordingly, for the reasons put forth above, Hatton also does not make obvious each and every element of claim 12. Reconsideration and withdrawal of this rejection is requested.

Claim 13 is a method claim corresponding to apparatus claim 2. Accordingly, for the reasons put forth above, Hatton also does not make obvious each and every element of claim 13. Reconsideration and withdrawal of this rejection is requested.

Claim 14 is a method claim corresponding to apparatus claim 3. Accordingly, for the reasons put forth above, Hatton also does not make obvious each and every element of claim 14. Reconsideration and withdrawal of this rejection is requested.

Claim 4, 8 and 15

The Office Action rejected claims 4, 8, and 15 under 35 U.S.C. §103(a) as being unpatentable over Hatton in view of U.S. Patent No. 5,377,103 to Lamberti et al. ("Lamberti")

Claim 4 depends from claim 3. As discussed above, Hatton does not make obvious each and every element of claim 3. Hatton and Lamberti, whether alone or in combination, do not make obvious the apparatus of claim 4, "wherein said server is programmed to query the user to determine if user wants to initiate the user search command."

Specifically, the Office Action stated Hatton does not explicitly teach the claimed element. However, the Office Action stated that the providing of selectable goal expressions by Lamberti at col. 6 lines 4-26 does teach the element of claim 4. Applicant takes issue with this position, since the cited portion of Lamberti does not address the user entering a user search command. Rather, the cited portion of Lamberti merely allows the user to select among a set of presented goal expressions – to reduce the risk that the system makes an error. The selection of a goal expression is not a user search

command. Rather, in Lamberti the set of selectable goal expressions is generated in response to an earlier user search request – which was not taught as being prompted by a server in Lamberti.

Accordingly, for the reasons similar to those put forth above, reconsideration and withdrawal of this rejection is requested.

Claim 8

Claim 8 depends from claim 1. As discussed above, Hatton does not make obvious each and every element of claim 1. Hatton and Lamberti, whether alone or in combination, do not make obvious the apparatus of claim 8, "wherein said user apparatus includes a user digital computer for generating said first signals and receiving said second signals."

Accordingly, for the reasons similar to those put forth above, reconsideration and withdrawal of this rejection is requested.

Claim 15

Claim 15 is a method claim corresponding to apparatus claim 4. Accordingly, for the reasons put forth above, Hatton and Lamberti, whether alone or in combination, also do not make obvious each and every element of claim 15. Reconsideration and withdrawal of this rejection is requested.

Claims 5-7, 9-10, and 16-19

The Office Action rejected claims 5-7, 9-10, and 16-19 under 35 U.S.C. §103(a) as being unpatentable over Hatton in view of U.S. Patent No. 6,269,356 to Johnson ("Johnson")

Claim 5

Claim 5 has been amended for clarification and depends from claim 1. As discussed above, Hatton does not make obvious each and every element of claim 1. Additionally, Hatton and Johnson, whether alone or in combination, do not make obvious

the apparatus of claim 5, "wherein the user apparatus converts human voice signals into said first signals."

Claim 6

Claim 6 has been amended for clarification and depends from claim 1. As discussed above, Hatton does not make obvious each and every element of claim 1. Additionally, Hatton and Johnson, whether alone or in combination, do not make obvious the apparatus of claim 6, "wherein the user apparatus converts second signals into audio signals."

Claim 7

Claim 7 depends from claim 1. As discussed above, Hatton does not make obvious each and every element of claim 1. Additionally, Hatton and Johnson, whether alone or in combination, do not make obvious the apparatus of claim 7, "wherein said user apparatus includes voice-to-text and text-to-voice recognition capability and a client software module for generating said first signals and for receiving said second signals."

Claim 9

Claim 9 depends from claim 8, which depends from claim 1. As discussed above, Hatton does not make obvious each and every element of claim 1. Additionally, Hatton and Johnson, whether alone or in combination, do not make obvious the apparatus of claim 9, "wherein said user apparatus further includes at least one user input device that includes a human voice to signal converter or a keyboard."

Claim 10

Claim 10 depends from claim 8, which depends from claim 1. As discussed above, Hatton does not make obvious each and every element of claim 1. Additionally, Hatton and Johnson, whether alone or in combination, do not make obvious the apparatus of claim 10, "wherein said user apparatus further includes at least one user input device that includes a signal to audio converter or a visual display monitor."

Claims 16-19

Claim 16 is a method claim that depends from claim 12, and corresponds to apparatus claim 5. Accordingly, for the reasons put forth above, Hatton and Johnson, whether alone or in combination, do not make obvious each and every element of claim 16. Reconsideration and withdrawal of this rejection is requested.

Claim 17 is a method claim that depends from claim 12, and corresponds to apparatus claim 6. Accordingly, for the reasons put forth above, Hatton and Johnson, whether alone or in combination, do not make obvious each and every element of claim 17. Reconsideration and withdrawal of this rejection is requested.

Claim 18 is a method claim that depends from claim 12, and is similar to apparatus claim 7. Accordingly, for the reasons put forth above, Hatton and Johnson, whether alone or in combination, do not make obvious each and every element of claim 18. Reconsideration and withdrawal of this rejection is requested.

Claim 19 is a method claim that depends from claim 12, and corresponds to apparatus claim 7. Accordingly, for the reasons put forth above, Hatton and Johnson, whether alone or in combination, do not make obvious each and every element of claim 19. Reconsideration and withdrawal of this rejection is requested.

Claim 20

The Office Action rejected claim 20 under 35 U.S.C. §103(a) as being unpatentable over Hatton in view of U.S. Patent No. 6,173,279 to Levin et al. ("Levin").

Claim 20 is an independent claim that includes elements of claims 1 and 2, and was rejected as being obvious in view of Hatton with respect to those elements. However, as noted above, Hatton does not teach each and every element of claims 1 and 2.

The Office Action acknowledged that "Hatton lacks teaching URL, and processing the [URL]...an HTML page to the user devices, processing the at least one HTML page ... to output a solution to the user query." However, the Office Action asserted that Levin teaches all of those elements at col. 6, lines 13-55.

Levin generally discusses processing a user query and "mapping topics to URLs" and then sends a query to the appropriate URL. But Levin does not disclose "converting the A-O problem statement into a URL, and sending the URL to a semantic server knowledge base; processing the URL at the semantic server knowledge base, which comprises a plurality of semantically processed S-A-O solutions to a plurality of A-O problem statements, the processing including: searching for one or more S-A-O solutions associated with the A-O problem statement, and if one or more S-A-O solutions are found, converting the one or more S-A-O solutions into at least one HTML page and sending the at least one HTML page to the user device; and processing the at least one HTML page at the user device to output a solution to the user query" as in claim 20, nor does Hatton.

Accordingly, Hatton and Levin, whether alone or in combination, do not make obvious each and every element of claim 20. Reconsideration and withdrawal of this rejection is requested.

Conclusion

Applicant believes that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Authorization is hereby given to charge Deposit Account No. 501798 for any otherwise unpaid fees that are due with this response and to credit any overpayments to same.

Respectfully submitted,

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